Review Key Financial Equations

Simple Interest

I=Pr t (GICs & Bonds)

Compound Interest (Lump Sum)

$A = P(1+i)^n$ i n

Regular Payments

$A = R\dfrac{[(1+i)^n - 1]}{i}$ i n

quarterly = 4

monthly = 12

semi annually = 2

daily = 365

annually =1

weekly = 52

biweekly =26

Jan 13-9:15 AM

8.6 Present Value of a

Regular Annuity p. 501-508

Present Value: the amount of \$ that must be invested today at a given interest rate in order to make regular withdrawls

$PV = R\dfrac{[1-(1+i)^{-n}]}{i}$

Trust Fund

Purchasing by Regular Payments

Jun 2-1:37 PM

Ex 2 p 503

$PV = R\dfrac{[1-(1+i)^{-n}]}{i}$

$PV = \dfrac{50[1-(1+0.006458)^{-60}]}{0.006458}$

$R = 50$

$i = 7.75$

$i = 0.0775$

$i = 0.006458$

$n = 5 \times 12$

$= 60$

$PV = \dfrac{50[1-(1.006458)^{-60}]}{0.006458}$

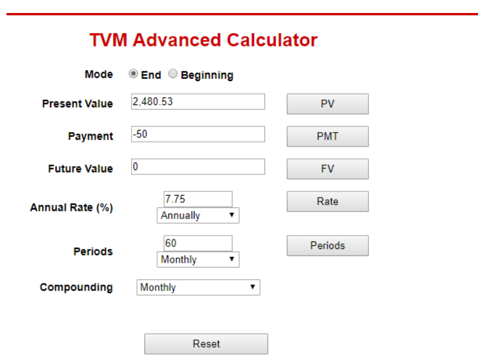
$PV = \dfrac{50[1-0.6796]}{0.006458}$

$PV = \dfrac{50[0.3203]}{0.006458}$

$PV = \$2479.87$

Rashaad puts away \$2479.87 today to help with his son's expenses over 5 years.

Jun 2-1:46 PM



May 29-8:49 AM

Ex 3
p 504

$PV = R\dfrac{[1-(1+i)^{-n}]}{i}$

$n = 1 \times 12 = 12$

$i = 0.11/12$

$1500 = R\dfrac{[1-(1+0.0092)^{-12}]}{0.0092}$

$1500 = R\dfrac{[1-(1.0092)^{-12}]}{0.0092}$

$1500 = R\dfrac{[1-0.8959]}{0.0092}$

$1500 = R\dfrac{(0.1041)}{0.0092}$

$1500 = R(11.3152)$

$\dfrac{1500}{11.3152} = R$

$132.57 = R$

Total Price $= 12 \times 132.57$

$= 1590.84$

Jun 2-2:01 PM

Robin bought a bicycle for \$1500. She arranged to make a payment to the store at the end of every month for 1 year. The store is charging 11%/a interest compounded monthly.

a) How much is each monthly payment?

b) How much interest is Robin paying?

Dec 16-10:07 AM

#11 p507

$PV = R\frac{[1-(1+i)^{-n}]}{i}$

$PV \cdot i = R[1-(1+i)^{-n}]$

$[1-(1+i)^{-n}]$ $[1-(1+i)^{-n}]$

$\frac{PV(i)}{[1-(1+i)^{-n})} = R$

$PV = 22\,000$
$n = 5 \times 12 = 60$
$i = 0.024/12$
$i = 0.002$

$\frac{22000(0.002)}{[1-(1+0.002)^{-60}]} = R$

$\frac{44}{[1-(1.002)^{-60}} = R$

$\frac{44}{[1-0.8870)} = R$

$\frac{44}{0.1129} = R$

$\$389.47 = R$

May 17-8:18 AM

p 506-508
q 2,4,5,6,9 & 12

Jun 2-2:09 PM

#8 p 507

$PV = R\frac{[1-(1+i)^{-n}]}{i}$

$R = 35$
$i = \frac{0.16}{12}$
$= 0.013$
$n = 18$

$PV = 35\frac{[1-(1+0.013)^{-18}]}{0.013}$

$= 35\frac{(1-(1.013)^{-18})}{0.013}$

$= \frac{35(1-0.787876)}{0.013}$

$= \frac{35(0.2121)}{0.013}$

$= \$556.82 + 150$ dep
$= \$706.82$

Jun 2-2:17 PM

$A = P(1+i)^n$ $i\ 0.06/4$
$= 0.015$

$A = 3600(1+0.015)^{12}$ $n = 3 \times 4$

$A = 3600(1.015)^{12}$ $= 12$

May 31-9:48 AM